

REMARKS

In the final Office Action, the Examiner rejects claims 24-30 under 35 U.S.C. § 101 as directed to non-statutory subject matter; rejects claims 1, 3, 14-16, 19, and 23-25 under 35 U.S.C. § 102(b) as unpatentable over GARDNER et al. (“Techniques for Finding Ring Covers in Survivable Networks,” Proceedings on IEEE GLOBECOM; 1994); rejects claims 2, 9-13, 17, and 30 under 35 U.S.C. § 103(a) as unpatentable over GARDNER et al. in view of CHOW et al. (U.S. Patent No. 7,133,410); rejects claims 4-8, 18, 21, and 26-28 under 35 U.S.C. § 103(a) as unpatentable over GARDNER et al. in view of KENNINGTON et al. (“Optimization Based Algorithms for Finding Minimal Cost Ring Covers in Survivable Networks, “*Computational Optimization and Applications*, 14; 1999); and rejects claims 22 and 29 under 35 U.S.C. § 103(a) as unpatentable over GARDNER et al. in view of GROVER et al. (U.S. Patent No. 6,819,662). Applicants respectfully traverse the objection and rejections.

By way of the present amendment, Applicants propose canceling claims 14 and 15 without prejudice or disclaimer and amending claims 1, 3, 16, 17, and 23-30 to improve form. No new matter has been added by way of the present amendment. Claims 1-13, 16-19, and 21-30 would remain pending upon entry of the present amendment.

Rejection under 35 U.S.C. § 101

Claims 24-30 stand rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter for reciting a computer-readable memory device. Without acquiescing in the Examiner’s rejection, but merely to expedite prosecution, Applicants amend claims 24-30 to recite a “hardware memory device.” As such, withdrawal of the rejection of claims 24-30 under 35 U.S.C. § 101 is respectfully requested.

Claim rejection under 35 U.S.C. § 102(b) based on GARDNER et al.

Pending claims 1, 3, 16, 19, and 23-25 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by GARDNER et al. Applicants respectfully traverse this rejection.

A proper rejection under 35 U.S.C. § 102 requires that a reference teach every aspect of the claimed invention. Any feature not directly taught must be inherently present. See M.P.E.P. § 2131. GARDNER et al. does not disclose or suggest one or more of the features in Applicants' claims 1, 3, 16, 19, and 23-25.

For example, claim 1 recites a processor-implemented method for designing a ring cover candidate for a network. The method includes receiving, at the processor, network configuration information and traffic demand information for the network; generating, by the processor, a plurality of ring cover candidates, each ring cover candidate including a plurality of rings, based on the network configuration information and the traffic demand information, each of the rings including a plurality of network spans, where the generating the ring cover candidate includes generating the plurality of ring cover candidates by using a different process to generate each of the ring cover candidates; counting, for each ring cover candidate of the plurality of ring cover candidates, a number of loaded network spans covered by the ring cover candidate; and selecting one of the plurality of ring cover candidates as a recommended ring cover candidate by selecting the one of the ring cover candidates having a highest number of loaded network spans. GARDNER et al. does not disclose or suggest one or more of these features.

For example, GARDNER et al. does not disclose or suggest selecting one of the plurality of ring cover candidates as a recommended ring cover candidate by selecting the

one of the ring cover candidates having a highest number of loaded network spans. A similar feature was previously presented in claim 15. The Examiner relies on page 2, column 1, lines 22-38 of GARDNER et al. as allegedly disclosing this feature of amended claim 1 (final Office Action, pg. 4). Applicants respectfully disagree with the Examiner's interpretation of GARDNER et al.

At page 2, column 1, lines 22-38, GARDNER et al. discloses finding the minimum cost ring cover for a network, where the cost of a ring is the sum of the weights of the links of the rings in the ring cover. Therefore, GARDNER et al. discloses selecting a ring cover with the minimum sum of loaded spans. The minimum sum of loaded spans in no way corresponds to a highest number of loaded network spans. In fact, a ring cover candidate with a highest number of loaded spans would likely have a higher cost than a ring cover candidate with a lower number of loaded network spans. Therefore, this section of GARDNER et al. does not disclose or suggest selecting one of the plurality of ring cover candidates as a recommended ring cover candidate by selecting the one of the ring cover candidates having a highest number of loaded network spans, as recited in amended claim 1.

For at least the foregoing reasons, Applicants submit that claim 1 is not anticipated by GARDNER et al.

Pending claim 3 depends from claim 1. Therefore, this claim is not anticipated by GARDNER et al. for at least the reasons given above with respect to claim 1.

Independent claims 16, 23, and 24 recite features similar to, yet possibly of different scope than, features recited above with respect to claim 1. Therefore, these

claims are not anticipated by GARDNER et al. for at least reasons similar to the reasons given above with respect to claim 1.

Pending claim 19 depends from claim 16. Therefore, claim 19 is not anticipated by GARDNER et al. for at least the reasons given above with respect to claim 16.

Claim 25 depends from claim 24. Therefore, claim 25 is not anticipated by GARDNER et al. for at least the reasons given above with respect to claim 24.

Rejection under 35 U.S.C. § 103(a) based on GARDNER et al. and CHOW et al.

Claims 2, 9-13, 17, and 30 stand rejected under 35 U.S.C. § 103(a) as unpatentable over GARDNER et al. and CHOW et al. Applicants respectfully traverse this rejection.

Claims 2 and 9-13 depend from claim 1; claim 17 depends from claim 16; and claim 30 depends from claim 24. Without acquiescing in the Examiner's rejection of claims 2, 9-13, 17, and 30, Applicants respectfully submit that the disclosure of CHOW et al. does not remedy the deficiencies in the disclosure of GARDNER et al. set forth above with respect to claims 1, 16, and 24. Therefore, claims 2, 9-13, 17, and 30 are patentable over GARDNER et al. and CHOW et al., whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claims 1, 16, and 24. Moreover, claims 2, 9-13, 17, and 30 recite additional features not disclosed or suggested by GARDNER et al. and CHOW et al.

For example, claim 10 recites that the characteristics of each of the rings include a ring identifier, a number of nodes covered by a corresponding one of the rings, and a length of the corresponding one of the rings. The Examiner admits that GARDNER et al. does not disclose this feature and relies on column 3, lines 7-11; column 6, lines 48-55;

and column 13, lines 56-60 of CHOW et al. as allegedly disclosing this feature of claim 10 (final Office Action, pg. 8). Applicants respectfully disagree with the Examiner's interpretation of CHOW et al.

At column 3, lines 7-11, CHOW et al. discloses:

Traffic demand is then routed over the one or more cycles via the one or more of the network traffic carrying connections. A representation containing the designed bi-connected ring-based network is then either stored or outputted as a report.

This section of CHOW et al. discloses that a representation containing a designed bi-connected ring-based network is either stored or outputted as a report. This section of CHOW et al. does not disclose or suggest storing or outputting a ring identifier, a number of nodes covered by a corresponding one of the rings, and a length of the corresponding one of the rings. Therefore, this section of CHOW et al. does not disclose or suggest that the characteristics of each of the rings include a ring identifier, a number of nodes covered by a corresponding one of the rings, and a length of the corresponding one of the rings, as recited in claim 10.

At column 6, lines 48-55, CHOW et al. discloses:

After the data describing the network to be designed is received, a dual-homed cover is determined 140, the cover includes one or more cycles/rings, where each location capable of being bi-connected, is included in at least one of the dual-homed cycles. After the cycles are selected the traffic demand is routed 150 over the one or more cycles. A report including a representation of the designed ring-based network is then outputted or stored 160.

This section of CHOW et al. discloses that a report including a representation of a designed ring-based network is outputted or stored. This section of CHOW et al. does not disclose or suggest storing or outputting a ring identifier, a number of nodes covered by a corresponding one of the rings, and a length of the corresponding one of the rings. Therefore, this section of CHOW et al. does not disclose or suggest that the

characteristics of each of the rings include a ring identifier, a number of nodes covered by a corresponding one of the rings, and a length of the corresponding one of the rings, as recited in claim 10.

At column 13, lines 56-60, CHOW et al. discloses:

After the network traffic has been assigned and the necessary network traffic management equipment has been placed, the results are stored or supplied in the form of a report, which outlines the network design.

This section of CHOW et al. discloses storing results in the form of a report. CHOW et al. does not disclose or suggest that the report includes a ring identifier, a number of nodes covered by a corresponding one of the rings, and a length of the corresponding one of the rings. Therefore, this section of CHOW et al. does not disclose or suggest that the characteristics of each of the rings include a ring identifier, a number of nodes covered by a corresponding one of the rings, and a length of the corresponding one of the rings, as recited in claim 10.

For at least these additional reasons, Applicants submit that claim 10 is patentable over GARDNER et al. and CHOW et al., whether taken alone or in any reasonable combination.

Rejection under 35 U.S.C. § 103(a) based on GARDNER et al. and KENNINGTON et al.

Claims 4-8, 18, 21, and 26-28 stand rejected under 35 U.S.C. § 103(a) as unpatentable over GARDNER et al. and KENNINGTON et al. Applicants respectfully traverse this rejection.

Claims 4-8 depend from claim 1; claims 18 and 21 depend from claim 16; and claims 26-28 depend from claim 24. Without acquiescing in the Examiner's rejection of claims 4-8, 18, 21, and 26-28, Applicants respectfully submit that the disclosure of

KENNINGTON et al. does not remedy the deficiencies in the disclosure of GARDNER et al. set forth above with respect to claims 1, 16, and 24. Therefore, claims 4-8, 18, 21, and 26-28 are patentable over GARDNER et al. and CHOW et al., whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claims 1, 16, and 24.

Rejection under 35 U.S.C. § 103(a) based on GARDNER et al. and GROVER et al.

Claims 22 and 29 stand rejected under 35 U.S.C. § 103(a) as unpatentable over GARDNER et al. and GROVER et al. Applicants respectfully traverse this rejection.

Claim 22 depends from claim 16 and claim 29 depends from claim 24. Without acquiescing in the Examiner's rejection of claims 22 and 29, Applicants respectfully submit that the disclosure of GROVER et al. does not remedy the deficiencies in the disclosure of GARDNER et al. set forth above with respect to claims 16 and 24.

Therefore, claims 22 and 29 are patentable over GARDNER et al. and GROVER et al., whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claims 16 and 24.

Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully request withdrawal of the outstanding rejections and the timely allowance of this application. Applicants respectfully request that the Examiner enter the proposed amendments because the proposed amendments place the application in better condition for allowance and appeal.

In view of the foregoing amendments and remarks, Applicants respectfully request the Examiner's reconsideration of the application and the timely allowance of the pending claims.

As Applicants' remarks with respect to the Examiner's rejections overcome the rejections, Applicants' silence as to certain assertions by the Examiner in the Office Action or certain requirements that may be applicable to such assertions (e.g., whether a reference constitutes prior art, reasons for modifying a reference and/or combining references, assertions as to dependent claims, etc.) is not a concession by Applicants that such assertions are accurate or that such requirements have been met, and Applicants reserve the right to dispute these assertions/requirements in the future.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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